IN THE UNITED STATES PATENT AND TRADEMARK OFFICE
BEFORE THE BOARD OF PATENT APPEALS AND INTERFERENCES

In re Application of Tim WHITTAKER	Atty. Docket US040113US2
	Confirmation No. 8745
Serial No. 10/588,432	Group Art Unit: 2617
Filed: MAY 8, 2007	Examiner: BYRD Jr., John B.

Title: METHOD AND APPARATUS FOR SYNCHRONIZATION OVER 802.3AF

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APPEAL BRIEF

Sir:

Appellant herewith respectfully presents a Brief on Appeal as follows, where a Notice of Appeal is concurrently filed:

REAL PARTY IN INTEREST

The real party in interest in this appeal is the assignee of record Koninklijke Philips Electronics N.V., a corporation of The Netherlands having an office and a place of business at Groenewoudseweg 1, Eindhoven, Netherlands 5621 BA.

RELATED APPEALS AND INTERFERENCES

Appellant and the undersigned attorney are not aware of any other appeals or interferences which will directly affect or be directly affected by or having a bearing on the Board's decision in the pending appeal.

STATUS OF CLAIMS

Claims 1-22 are pending in this application. Claims 1-22 are rejected in the Final Office Action mailed in June 16, 2010. Claims 1-22 are the subject of this appeal.

STATUS OF AMENDMENTS

Appellant did not file a response to a Final Office Action mailed on June 16, 2010. This Appeal Brief is in response to the Final Office Action mailed June 16, 2010, that finally rejected claims 1-22.

SUMMARY OF THE CLAIMED SUBJECT MATTER

The present invention, for example, as recited in independent claim 1 and shown in FIGs 2-5, and described on page 4, line 9 to page 7, line 32 of the specification, is directed to a method for synchronizing a timing of multiple fixed wireless Access Points and/or Synchronization Units in a network communicating under an Ethernet-related protocol. As shown in FIG 2 and 6, and described on page 4, line 11-16 and page 7, lines 16-25, the method includes arranging a cable comprising at least four pairs of twisted wires connected between an Ethernet LAN and a plurality of fixed Access Points (AP) and/or Synchronization Units (SU) in a network; and assigning a first pair of the at least four pairs of twisted wire to carry a positive D.C. rail voltage to at least one (AP) or (SU), and assigning a second pair of the least four pairs of twisted wire to carry a negative D.C. rail voltage to said at least one (AP) or (SU). As shown in FIG 6, and described on page 4, lines 28-23; page 5, lines 15-20; and page 7, lines 26-32 of the specification, the method further includes providing to at least one pair of the first and second pairs of twisted wires a series of synchronization pulses generated from a synchronization source unit (SU), shown in FIG 6, and capacitively-coupled, via capacitors 656, to the twisted wires so as to supply a composite signal that includes the series of synchronization pulses and at least one of the positive and negative D.C. voltage rails to a first end of the twisted wires; and reconstructing the generated synchronization pulses by detecting pulses on the positive

and negative D.C. voltage rails at a second end of the twisted wires by the (AP) or (SU).

The present invention, for example, as recited in independent claim 12 and shown in FIGs 2-6, and described on page 4, line 9 to page 7, line 32 of the specification, is directed to a Wireless Medical Telemetry System (WMTS) synchronizing unit for synchronizing the timing of multiple Access Points of a WLAN, comprising a receiving unit 635 for receiving an external timing signal; a line receiver having input sockets being adapted for receiving a cable comprising at least four pairs of wires from a master synchronizing unit when the WMTS unit has been designated as a slave unit, wherein two pairs of the at least four pairs of wire contain synchronization pulses from the master synchronizing unit. As shown in FIG 6, and described on page 5, lines 15-20; and page 7, lines 26-32 of the specification, the synchronizing unit further includes a power module 610 adapted for receiving a rail voltage from a power hub and for providing predetermined voltage level outputs; a synchronization source unit (SU) for generating synchronization pulses when the WMTS unit has been a master synchronizing unit; and a plurality of synchronization pulse injection units 655 for sending synchronization pulses and a rail voltage over a common two pairs of wires, wherein the synchronization pulses are capacitively coupled, via capacitors 656, to the rail voltage on the common two pairs of wire.

GROUNDS OF REJECTION TO BE REVIEWED ON APPEAL

Whether claims 1, 3-9 and 12-22 of U.S. Patent Application Serial No. 10/588,432 are unpatentable under 35 U.S.C. §103(a) over U.S. Patent Application Publication Application No. 2004/0042499 (Piercy) in view of the Institute of Electrical and Electronics Engineers Standards, 802.3af™ (802.3af).

Whether claims 4-5 and 14 of U.S. Patent Application Serial No. 10/588,432 are unpatentable under 35 U.S.C. §103(a) over Piercy in view of 802.3af and U.S. Patent No. 6,226,515 (Pauli).

ARGUMENT

Claims 1, 3-9 and 12-22 are said to be unpatentable over Piercy in view of 802.3af.

Appellant respectfully requests the Board to address the patentability of independent claims 1 and 12, dependent claim 22, and further claims 2-9 and 13-22 as depending from independent claims 1 and 12, based on the requirements of independent claims 1 and 12. This position is provided for the specific and stated purpose of simplifying the current issues on appeal. However, Appellant herein specifically reserves the right to argue and address the patentability of claims 2-9 and 13-22 at a later date should the separately patentable subject matter of claims 2-9 and 13-22 later become an issue. Accordingly, this limitation of the subject matter presented for appeal herein, specifically limited to discussions of the patentability of independent claims 1 and 12 is not intended as a waiver of Appellant's right to argue the patentability of the further claims and claim elements at that later time.

Piercy is directed to a method of synchronizing equipment at LAN nodes that includes "transmitting a timing signal over the LAN via a **dedicated** conductor of each LAN cable that is not otherwise used for normal LAN signalling." (Piercy, page 2, claim 12, lines 2-4; emphasis added) As correctly noted on page 4, first full paragraph of the Final Office Action, Piercy does not disclose any composite signal that includes the series of synchronization pulses and at least one of positive and negative D.C. voltage rails, as

recited in independent claim 1, or sending synchronization pulses and a rail voltage over a common two pairs of wires, wherein the synchronization pulses are capacitively coupled to the rail voltage on the common two pairs of wires, as recited in independent claim 12. 802.3af is cited in an attempt to remedy the deficiencies in Piercy.

Similar to Piercy, 802.3af shows on page 30, FIG 33-4 four **dedicated** pairs of wires, where two wire pairs are dedicated to data signals, and two wire pairs are dedicated to power signals. That is, separate wires are used for power, and different or separate lines are used for data.

It is respectfully submitted that Piercy, 802.3af, and combination thereof, do not disclose or suggest the present invention as recited in independent claim 1 which, amongst other patentable elements, recites (illustrative emphasis provided):

> providing to at least one pair of the first and second pairs of twisted wires a series of synchronization pulses generated from a synchronization source and **capacitively**-coupled to the said at least one pair of twisted wires so as to supply a **composite** signal that includes the series of **synchronization pulses and** at least one of the positive and negative D.C. voltage rails to a first end of said at least one pair of twisted wires.

Further, it is respectfully submitted that Piercy, 802.3af, and combination thereof, do not disclose or suggest the present invention as recited in independent claim 1, and similarly recited in independent claim 12 which, amongst other patentable elements, recites (illustrative emphasis provided):

> a plurality of synchronization pulse injection units for sending synchronization pulses **and** a rail voltage **over a common** two pairs of wires, wherein the **synchronization pulses are capacitively coupled to**

the rail voltage on the common two pairs of wires.

Piercy, 802.3af, and combination thereof, do not even disclose or suggest any composite signal that includes **both** synchronization pulses **and** at least one of the positive and negative D.C. voltage rails on a one pair of twisted wires or on a common two pairs of wires, where the synchronization pulses are capacitively coupled to the rail voltage, as recited in independent claim 1 and 12. Rather, any data signals in Piercy and 802.3af are transmitted on dedicated wires which are separate from wires that carry power. That is, in Piercy and 802.3af, data or timing signals are carried on wires that are different from wires that carry power. There is simply no disclosure or suggestion in Piercy, 802.3af, and combination thereof, of any **composite** signal that includes **both** synchronization pulses **and** at least one of the positive and negative D.C. voltage rails. Instead of such a composite signal, **two separate** signals are disclosed in Piercy and 802.3af, namely, a sync or data signal carried on signal line **and** a power signal carried on a power line which is different from the signal line.

Accordingly, it is respectfully submitted that independent claims 1 and 12 are allowable. In addition, it is respectfully submitted that claims 3-9 and 13-22 are also allowable at least based on their dependence from independent claims 1 and 12.

Dependent claim 22 also includes patentable subject matter. In particular, "synchronization pulses [that] are output only after a predetermined rail voltage has been detected," as recited in claim 22, are nowhere disclosed or suggested in Piercy and

802.3af, and combinations thereof. Rather, 802.3af merely discloses on page 32, section 33.2.3.1, to "turn on power after a valid detection in less than T_{pon}." (802.3af, page 32, section 33.2.3.1, line 2; emphasis added) Turning on power after a valid detection has nothing to do, and does not disclose or suggest outputting synchronization pulses after a predetermined rail voltage has been detected, as recited in claim 22.

Claims 4-5 and 14 are said to be unpatentable over Piercy in view of 802.3af and Pauli.

It is respectfully submitted that claims 4-5 and 14 should be allowed at least based on their dependence from independent claims 1 and 12.

In addition, Appellant denies any statement, position or averment of the Examiner that is not specifically addressed by the foregoing argument and response. Any rejections and/or points of argument not addressed would appear to be moot in view of the presented remarks. However, the Appellant reserves the right to submit further arguments in support of the above stated position, should that become necessary. No arguments are waived and none of the Examiner's statements are conceded.

CONCLUSION

Claims 1-22 are patentable over Piercy, 802.3af and Pauli.

Thus, the Examiner's rejections of claims 1-22 should be reversed.

Respectfully submitted,

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CLAIMS APPENDIX

1.(Previously Presented) A method for synchronizing a timing of multiple fixed wireless Access Points and/or Synchronization Units in a network communicating under an Ethernet-related protocol, comprising the steps of:

(a) arranging a cable comprising at least four pairs of twisted wires connected between an Ethernet LAN and a plurality of fixed Access Points (AP) and/or Synchronization Units (SU) in a network;

(b) assigning a first pair of the at least four pairs of twisted wire to carry a positive D.C. rail voltage to at least one (AP) or (SU), and assigning a second pair of the least four pairs of twisted wire to carry a negative D.C. rail voltage to said at least one (AP) or (SU);

(c) providing to at least one pair of the first and second pairs of twisted wires a series of synchronization pulses generated from a synchronization source and capacitively-coupled to the said at least one pair of twisted wires so as to supply a composite signal that includes the series of synchronization pulses and at least one of the positive and negative D.C. voltage rails to a first end of said at least one pair of twisted wires; and

(d) reconstructing the generated synchronization pulses by detecting pulses on the positive and negative D.C. voltage rails at a second end of said at least one pair of twisted wires by said at least one (AP) or (SU).

2.(Original) The method according to claim 1, wherein each wire of the respective first and second pairs are connected together by one of a connector and a physical connection of the respective pair.

3.(Original) The method according to claim 1, wherein the LAN powering scheme comprises that described in one of draft standard IEEE P802.3AF.

4.(Original) The method according to claim 1 operating in a TDMA system, wherein each (AP) communicates with multiple portable wireless devices, and in which portable wireless devices can associate with multiple (APs) in sequence, handing off between them.

5.(Original) The method according to claim 4, wherein said each (AP) communicates with multiple portable devices in a WMTS (Wireless Medical Telemetry System).

6.(Original) The method according to claim 2, further comprising connecting the cable to the (AP) or (SU) via an RJ-45 connector.

7.(Original) The method according to claim 1, wherein the positive D.C. rail voltage is applied to pins 4 and 5 of the RJ-45 connector.

8.(Original) The method according to claim 1, wherein the negative D.C. rail voltage is applied to pins 7 and 8 of the RJ-45 connector.

9.(Original) The method according to claim 1, further comprising that a third pair of the least four pairs of twisted wire carries data to the (APs).

10.(Original) The method according to claim 9, further comprising that a fourth pair of the at least four pairs of twisted wire carries data from the (APs).

11.(Original) The method according to claim 1, wherein the network includes more than one synchronization unit (SU), and wherein the synchronization source comprises a master (SU) that designates additional (SUs) in the network as slave (SUs) that receive the synchronization pulses from the master (SU).

12.(Original) A Wireless Medical Telemetry System (WMTS) synchronizing unit for synchronizing the timing of multiple Access Points of a WLAN, comprising:

a receiving unit for receiving an external timing signal;

a line receiver having input sockets being adapted for receiving a cable comprising at least four pairs of wires from a master synchronizing unit when the WMTS unit has been

designated as a slave unit, wherein two pairs of said at least four pairs of wire contain synchronization pulses from the master synchronizing unit;

a power module adapted for receiving a rail voltage from a power hub and for providing predetermined voltage level outputs;

a synchronization source unit for generating synchronization pulses when the WMTS unit has been a master synchronizing unit; and

a plurality of synchronization pulse injection units for sending synchronization pulses and a rail voltage over a common two pairs of wires, wherein the synchronization pulses are capacitively coupled to the rail voltage on the common two pairs of wires.

13.(Original) The apparatus according to claim 12, wherein the sockets are adapted to receive RJ-45 connectors connected to Category 5 twisted wire cable.

14.(Original) The apparatus according to claim 12, wherein a field programmable gated array (FPGA), LED driver and a frequency locked loop control functionality in lieu of a processor or microprocessor.

15.(Original) The apparatus according to claim 12, further comprising a block of output connectors adapted for providing an output of data and synchronization pulses to one or more slave synchronization units.

16.(Original) The apparatus according to claim 12, further comprising a block of output connectors adapted for providing an output of data, a combination of the rail voltage and capacitively coupled synchronization pulses to a plurality of Access Points.

17.(Original) The apparatus according to claim 12, further comprising a master/slave selection switch.

18.(Original) The apparatus according to claim 12, further comprising a cable delay adjustment unit for compensating a length of cables used.

19.(Original) The apparatus according to claim 12, wherein the synchronization pulse injection units includes capacitive elements to couple the synchronization pulses to power cables 4,5, 7,8 that connected to the power rails.

20.(Original) The apparatus according to claim 15, wherein the output synchronization pulses comprises at least one of standard frame pulses, multiframe pulses that are not PSCN (Primary receiver Scan Carrier Number) synchronization pulses, and multiframe pulses that comprise PSCN synchronization pulses.

21.(Original) The apparatus according to claim 16, wherein the rail voltage continues to be output to the Access Points via the connectors after a failure of synchronization pulses occurs.

22.(Original) The apparatus according to claim 16, wherein the synchronization pulses are output only after a predetermined rail voltage has been detected.

EVIDENCE APPENDIX

None

RELATED PROCEEDINGS APPENDIX

None